

---

**Research Project Title:** Work zone alert systems

**Purpose of the Project**

The purpose of the project is to determine the appropriate set of work zone intrusion alert systems (WZIAs) to be implemented in road construction sites across the state. Recommendations will be fitted to work zone typology and expected construction project duration and will seek to blend ease of use in the field with low cost and live monitoring capabilities for TDOT. At each project milestone, the research team will update TDOT on progress and seek to partner with TDOT to implement controlled on-site testing of candidate WZIA technologies before submitting a final recommendation.

**Scope and Significance**

The scope of the research project includes:

- A comprehensive review of the state of the art strategies deployed by other DOTs.
- Data Collection:
  - Incident Management data: Data on all reported work zone crashes are available from the incident management system in Tennessee.
  - Crash data: Crash data, from the Tennessee Roadway Information Management System (TRIMS).
  - Cost data will be collected from manufacturers of candidate WZIA technologies.
- On-site implementation and testing of candidate technologies, accompanied by surveys to capture user experience.
- Recommendation of ready-to-implement WZIA technologies and guidance on their use.

**Expected Outcomes**

The following are expected outcomes of this research project:

- Identification and comparison of appropriate WZIA technologies based on
  - Low levels of false alerts; User-friendly systems; Low life-cycle costs; Live tracking of work zone intrusions
- Recommendations for implementation based on work zone characteristics
- Before/after study to measure the change in safety after implementation of WZIAs.

**Time Period**

The time period for the project is 18 months.

**Contact Information**

<b>Principal Investigator (PI):</b> Name: Sabya Mishra Department: Civil Engineering University: University of Memphis Phone: 901-678-5043 Email: <a href="mailto:smishra3@memphis.edu">smishra3@memphis.edu</a>	<b>TDOT Lead Staff:</b> Name: Jason Oldham Division: Traffic Operations Phone: 615-741-0995 Email: <a href="mailto:jason.oldham@tn.gov">jason.oldham@tn.gov</a>
---	---